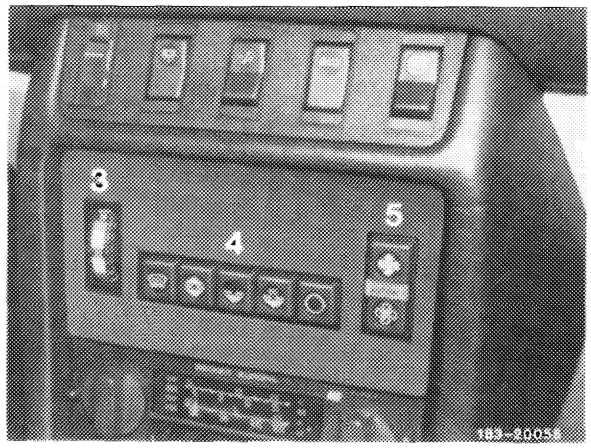
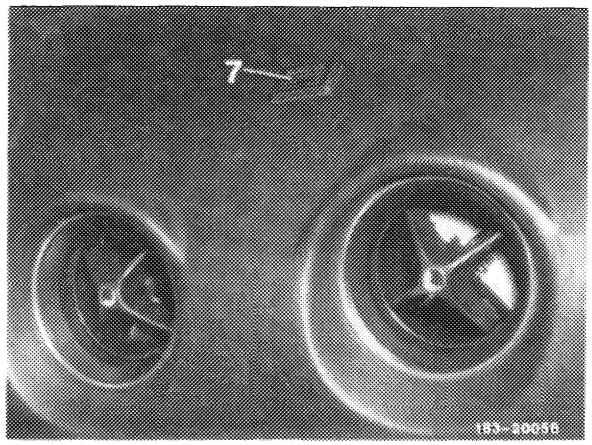
The manual test permits checking the function (operation) of all components of automatic climate control system.
Additional tests for finding the cause of the fault are only required in the event of deviations from the functions or air outlets shown here.
Run engine at idle and at operating temperature during entire test.



3 Temperature dial
4 Pushbutton switching unit
5 Blower switch

Open swivel inserts for air outlet center, left and right.
Remove glove box (68–140).



Note

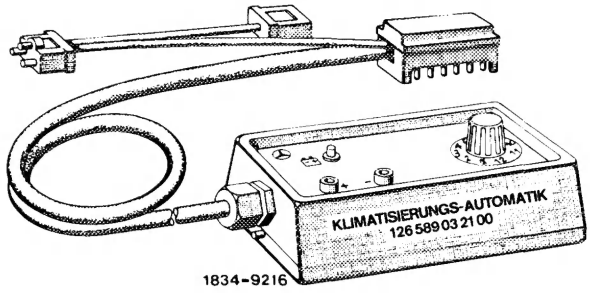
1. During electric test on 2-pole coupler of monovalve (with voltmeter, test lamp) be sure to avoid a short, which may destroy the electronic switching unit for temperature control.

2. At room temperatures $>25\ ^{o}C$ the cycling of the heating water valve cannot be readily shown during second and sixth test. For this purpose, the vehicle interior should be cooled down to approx. $22\ ^{o}C$ (with doors and windows, as well as sliding top) closed.

3. Other tests can be made with an adapter for automatic climate control 126 589 03 21 00.

4. Illustration of special operating conditions:

Only one button at the time should be pushed, on principle. The operating conditions described below are therefore not included in test scope. They are mentioned only to assist customers if such a condition has been established by chance. No damage will occur, even if the vehicle is driven for an extended period.



a) **All buttons "a" – "e" not pushed:**
Operating condition similar to "c", but the lowest automatic blower stage will then be raised to 3rd stage.

b) **Button "e" pushed in combination with another button:**
System always in switched-off condition.

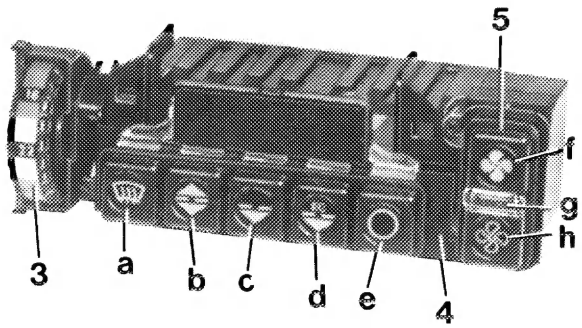
c) **Buttons "c" and "d" pushed at the same time:**
Operating condition similar to "d", but 3rd blower stage will drop to 2nd stage.

d) **Buttons "b" and "c" pushed at the same time:**
Operating condition similar to "b", but 3rd blower stage will drop to 2nd stage.

e) **Buttons "a" and "b" pushed at the same time:**
Operating condition similar to "a", but legroom flaps will be additionally open.

f) **Operation of button "a" (DEF) will always predominate in relation to selector dial and blower.**

g) **Buttons "b" and "d" pushed at the same time:**
Function similar to "b", but compressor will be switched off.



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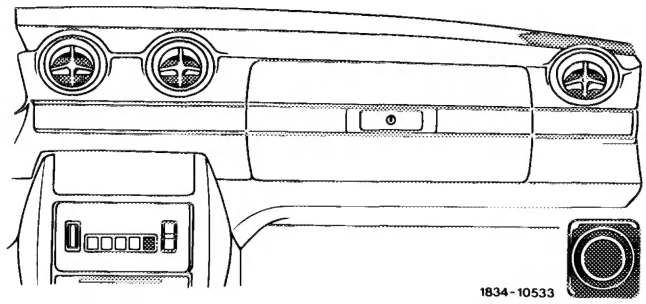
Significance of arrows in graphic displays of tests 1–12.

	Arrows, large	Arrows, small
Outside air	Gray	
Cooled air	Black	
Heated air	White	
Air outlet (warm)		White

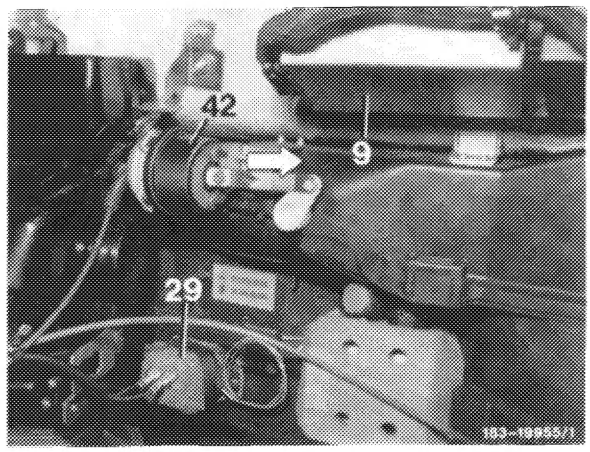
Test 1:

Selector dial	Function button	Blower
22 °C	"e"	"AUTOM"



- Monovalve closed.
- Compressor switched off.
- Main air flap closed.
- Blower not running.
- Recirculating pump not running.

The electronic system is ready for operation.

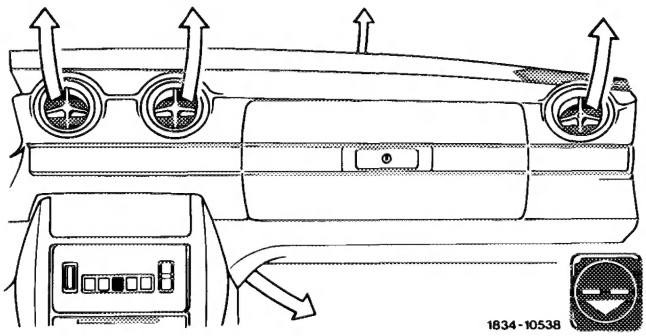


Main air flap closed (arrow), no fresh air supply

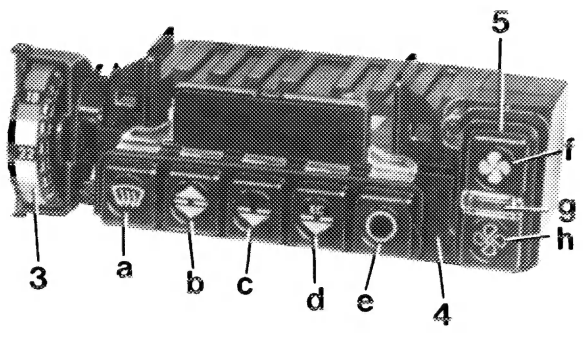
Test 2:

Selector dial	Function button	Blower
22 °C	"c"	"AUTOM"

Establish condition "mode change" (overlap) by turning temperature dial slowly in upward or downward direction until legroom flaps and center nozzle flap are open.



- Monovalve cycling (every 4 to 5 seconds). At temperatures > 25 °C refer to 83–601, item 1.
- Compressor switched on at outside temperatures above + 2 °C
- Main air flap open (fresh air).
- Blower starts after approx. 10 seconds.
- Recirculating pump running.



Control unit

3	Temperature dial
5	Blower switch
a–e	Function selection buttons
f	Max. blower stage (6th stage)
g	Automatic blower (2nd–5th stage)
h	Minimum blower stage (1st stage)

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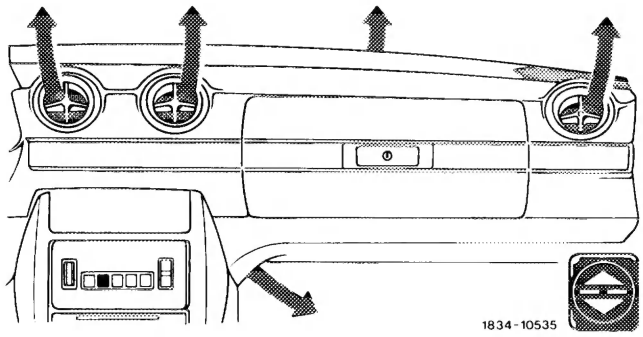
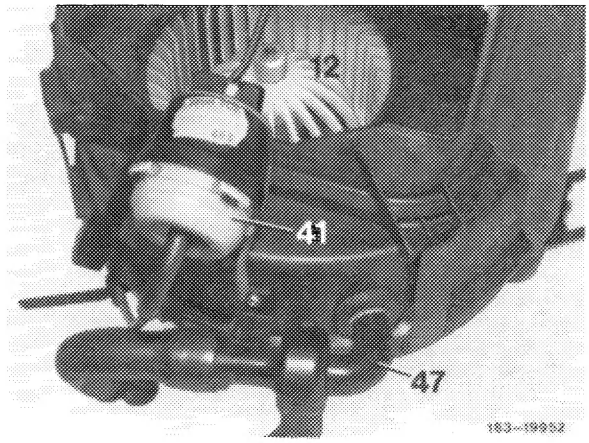
Test 3

Selector dial	Function button	Blower
MIN (engaged)	"b"	"AUTOM"



- Monovalve closed.
- Recirculating valve not running.
- Compressor switched on at outside temperatures $>2\ ^{o}C$.
- Fresh air-recirculating air flap in position "re-circulating air" (20 % fresh air, 80 % recirculating air).
- Main air flap open.
- Blower runs (10 V or 5th stage).

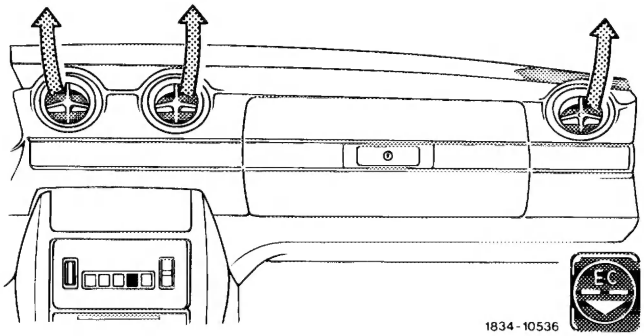
Also refer to vacuum function diagram 2 b (83–604).



Vacuum element 41 for fresh air-recirculating air flap in position "recirculating air"

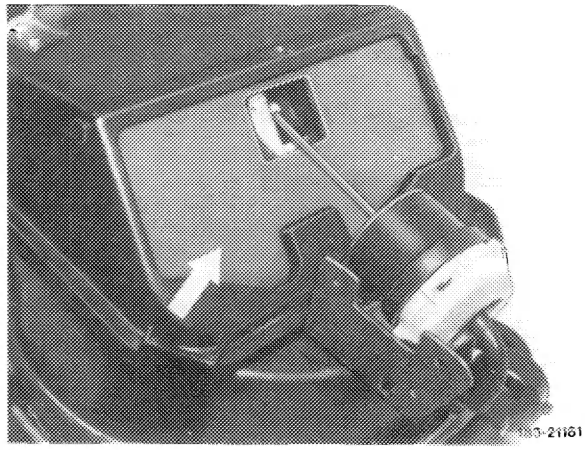
Test 4

Selector dial	Function button	Blower
MIN (engaged)	"d"	"AUTOM"



- Monovalve closed.
- Recirculating valve not running.
- Compressor switched off.
- Fresh air-recirculating air flap in position "fresh air".
- Main air flap open (fresh air).
- Blower running (10 V or 5th stage).

Also refer to vacuum function diagram 4 a (83–604).



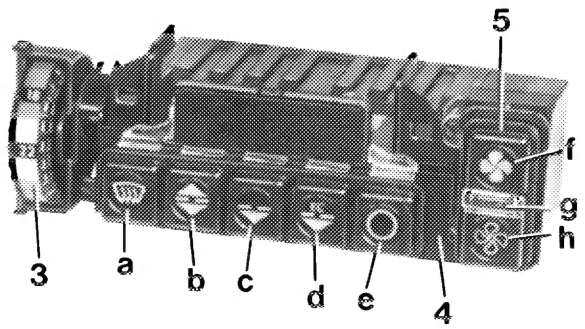
Fresh air-recirculating air flap in position "fresh air" (arrow)

Test 5:

Selector dial	Function button	Blower
MIN (engaged)	"c"	"h"

- Center nozzle flap open.
- Monovalve closed.
- Fresh air-recirculating air flap in position "recirculating air" (20 % fresh air, 80 % recirculating air).
- Main air flap open.
- Recirculating pump not running.
- Blower running (4 V or 1st stage).

Also refer to vacuum function diagram 3 b (83–604).



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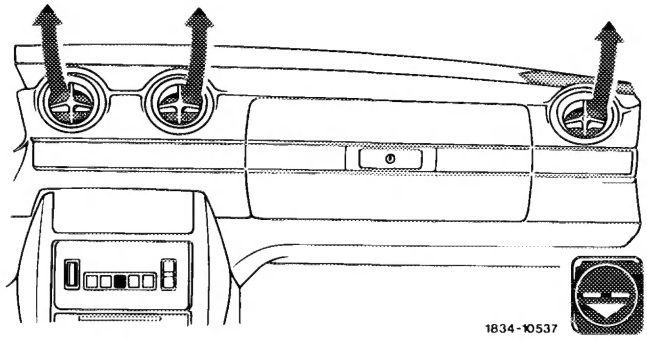

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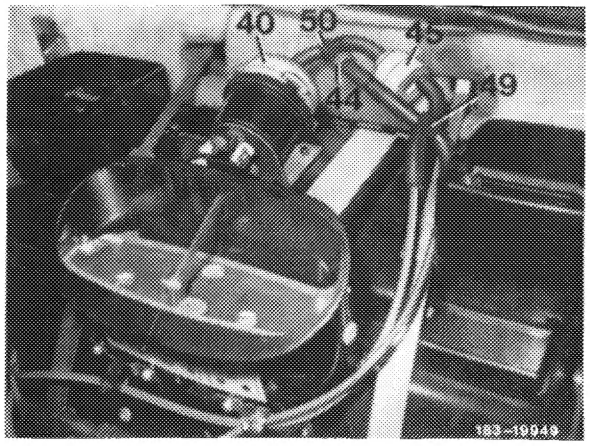
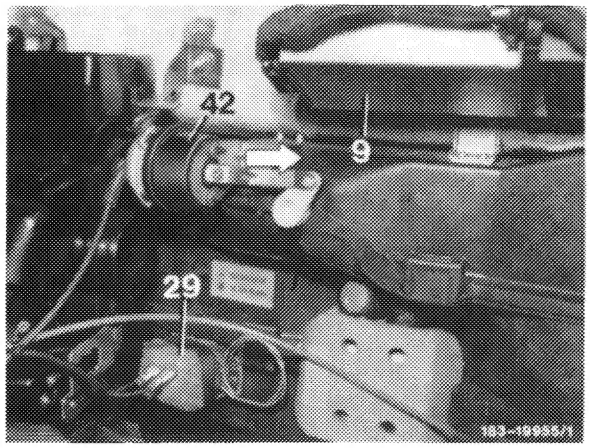
Significance of arrows in graphic displays of tests 1–12.

	Arrows, large	Arrows, small
Outside air	Gray	
Cooled air	Black	
Heated air	White	
Air outlet (warm)		White

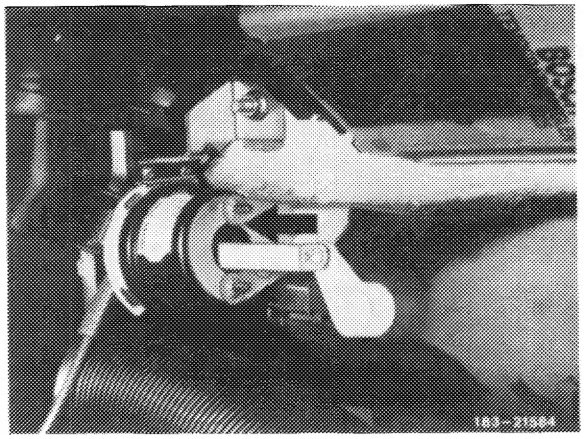


40 Vacuum element for center nozzle flap
44 Throttle (orifice)
45 Check valve
49 4-point distributor
50 3-point distributor



Main air flap closed (arrow)

9 Electronic switching unit for temperature control
29 ETR-switch
42 Vacuum element for main air flap



Main air flap opened (arrow)

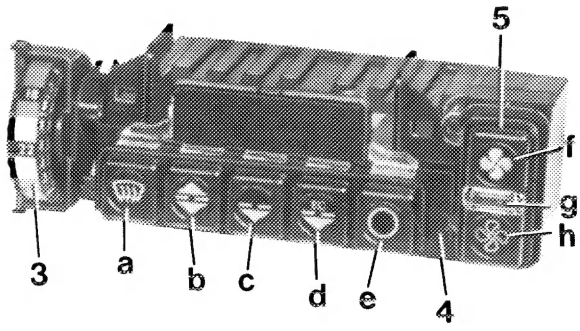
Test 6:

Selector dial	Function button	Blower
22 °C	"c"	"AUTOM"

Set up condition "mode change" (overlap) by slowly turning temperature dial in upward or downward direction until legroom flaps and center nozzles are opened. Wait until blower has switched to 5 V or 2nd stage.

5 V on blower = preparation for next test!

- Monovalve cycling (every 4 to 5 seconds). At temperatures >25 °C refer to job no. 83–601, item 2.
- Compressor switched on at outside temperatures above + 2 °C.
- Main air flap open (fresh air).
- Fresh air-recirculating air flap in position "fresh air" (arrow).
- Recirculating pump running.



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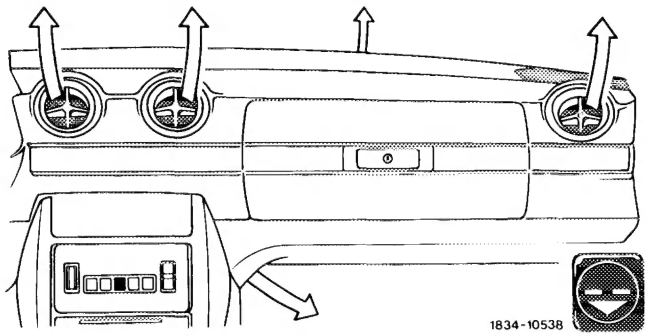
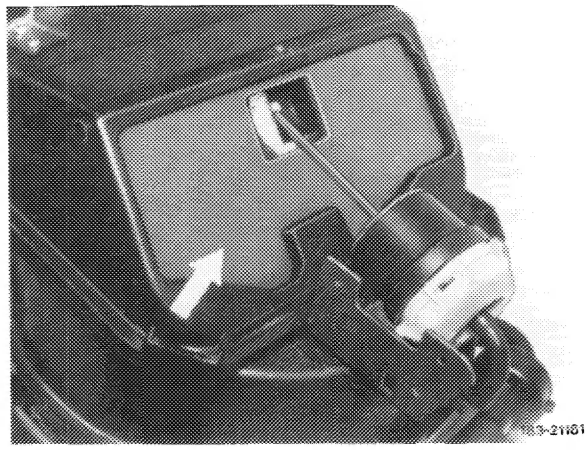


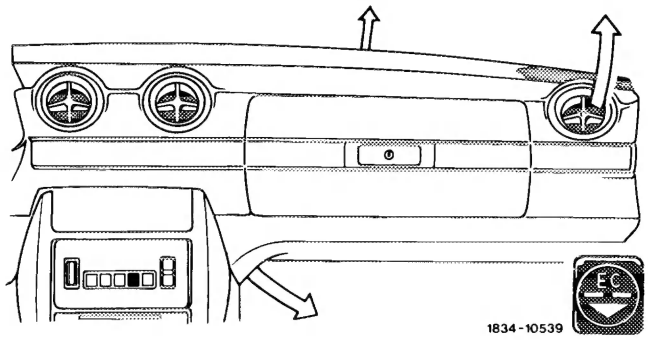
Significance of arrows in graphic displays of tests 1–12.

	Arrows, large	Arrows, small
Outside air	Gray	
Cooled air	Black	
Heated air	White	
Air outlet (warm)		White



Test 7:

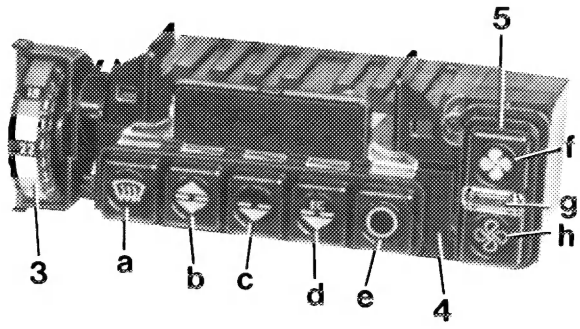
Selector dial	Function button	Blower
22 °C	"d"	"AUTOM"



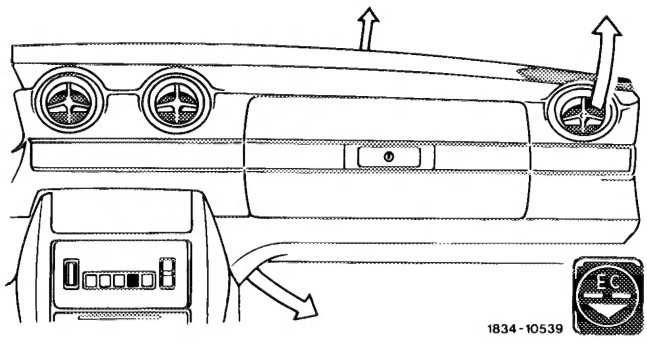
- Blower switches one stage higher (from 5 V to 6.5 V or from 2nd to 3rd stage).
- Monovalve cycling (every 4–5 seconds).
- Compressor switched off.
- Main air flap opened (fresh air).
- Fresh air-recirculating air flap in position "fresh air" (arrow).
- Recirculating pump running.

Test 8:

Selector dial	Function button	Blower
22 °C	"d"	"f"



- Blower running at max. speed (6th stage).
- Monovalve cycling (every 4–5 seconds).
- Compressor switched off.
- Fresh air-recirculating air flap in position "fresh air".
- Main air flap open (fresh air).
- Recirculating pump running.

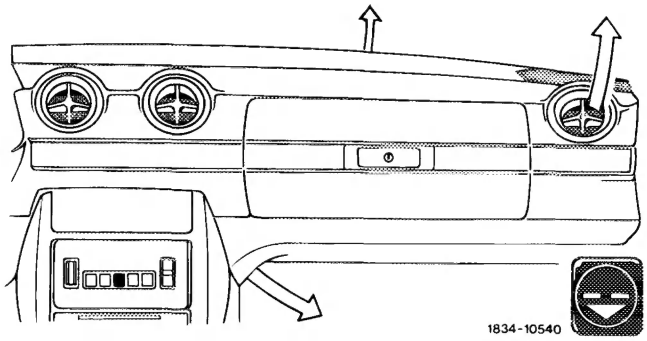


Significance of arrows in graphic displays of tests 1–12.

	Arrows large,	Arrows, small
Outside air	Gray	
Cooled air	Black	
Heated air	White	
Air outlet (warm)		White

Test 9:

Selector dial	Function button	Blower
MAX (engaged)	"c"	"AUTOM"

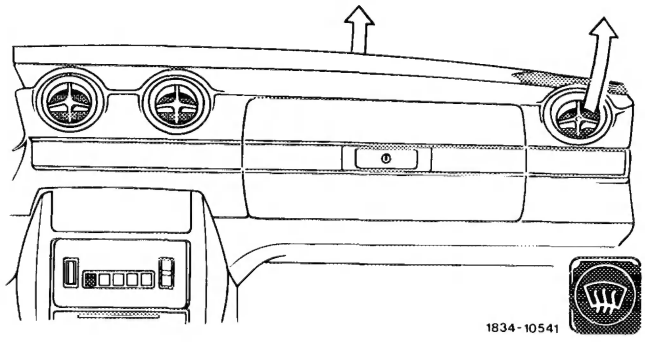


- Monovalve opened.
- Recirculating pump running.
- Compressor switched on at outside temperatures above +2 °C.
- Blower running (10 V or 5th stage).
- Center nozzle flap closed (no air from center nozzle).
- Main air flap opened (fresh air).

Also refer to vacuum function diagram 3 (83–604).

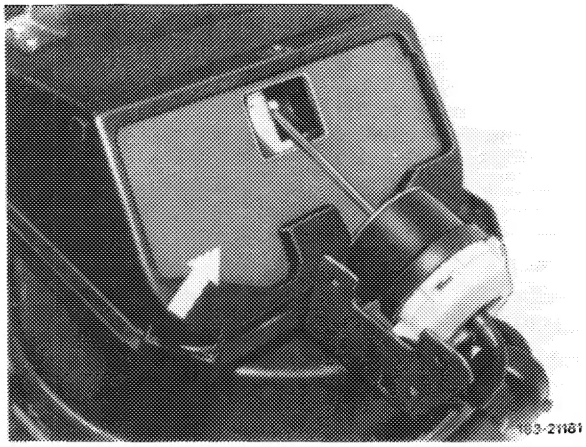
Test 10:

Selector dial	Function button	Blower
Optional	"a"	Optional



- Blower running at max. speed (6th stage).
- Monovalve open.
- Recirculating pump running.
- Compressor switched on at outside temperatures >2 °C.
- Fresh air-recirculated air in position "fresh air" (arrow).
- Main air flap open.

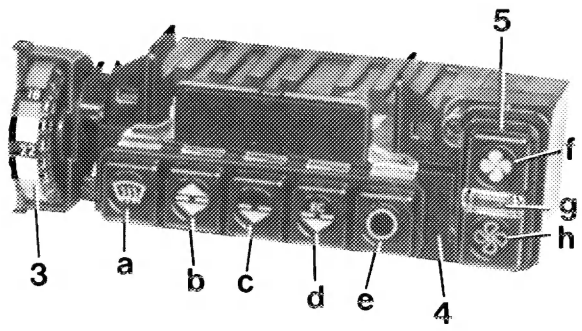
Also refer to vacuum function diagram 1 (83–604).



Test 11:

Selector dial	Function button	Blower
MIN	"b"	"f"

- After switching to "b", cold air should come immediately out of center and side nozzles.



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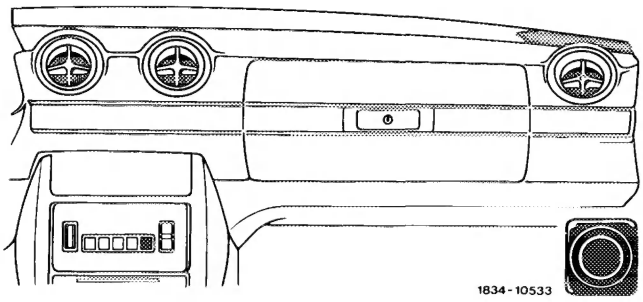
Significance of arrows in graphic displays of tests 1–12.

	Arrows, large	Arrows, small
Outside air	Gray	
Cooled air	Black	
Heated air	White	
Air outlet (warm)		White

Test 12:

Selector dial	Function button	Blower
22 °C	"e"	"AUTOM"

- Monovalve closed.
- Recirculating pump not running.
- Compressor switched off.
- Main air flap closed.
- Blower not running.
  Also refer to vacuum function diagram 5 (83–604).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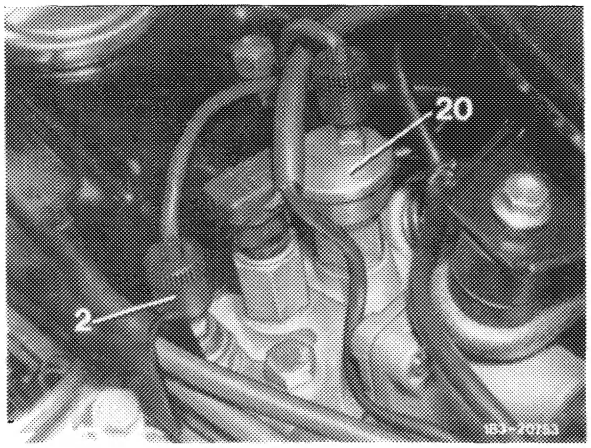
Test 13:

Pull coupling from cold engine lock (2).

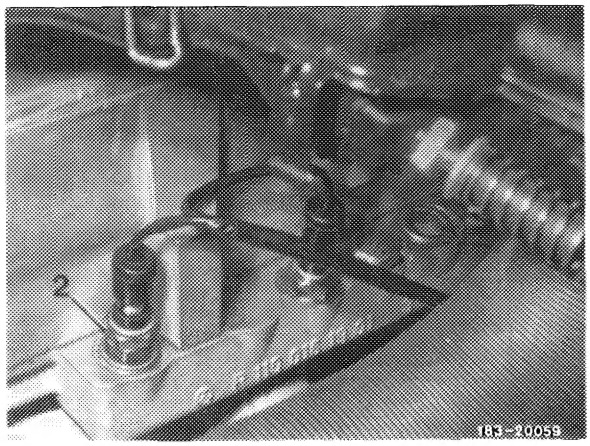
Selector dial	Function button	Blower
MAX	"c"	"AUTOM"



2 Temperature switch (cold engine lock) engine 102

- Main air flap closed.
- Blower not running.

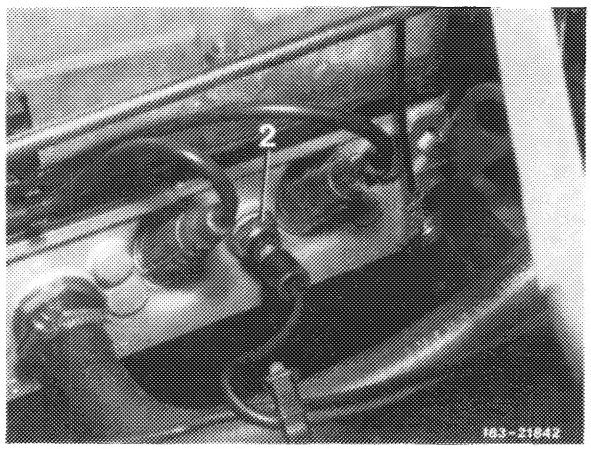
Do not yet plug-on coupling of cold engine lock.



2 Temperature switch (cold engine lock) engine 110

Test 14:

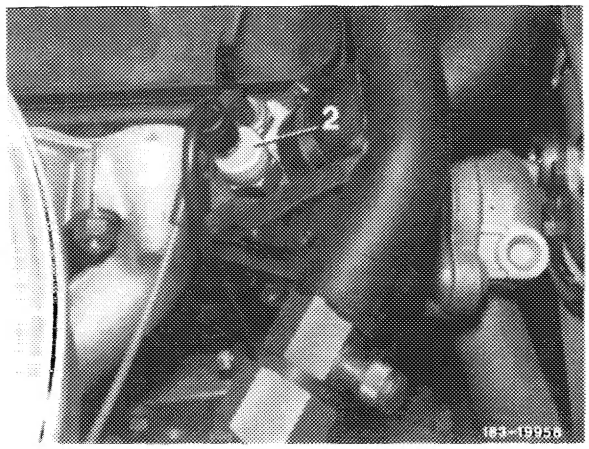
Selector dial	Function button	Blower
MIN	"c"	"AUTOM"



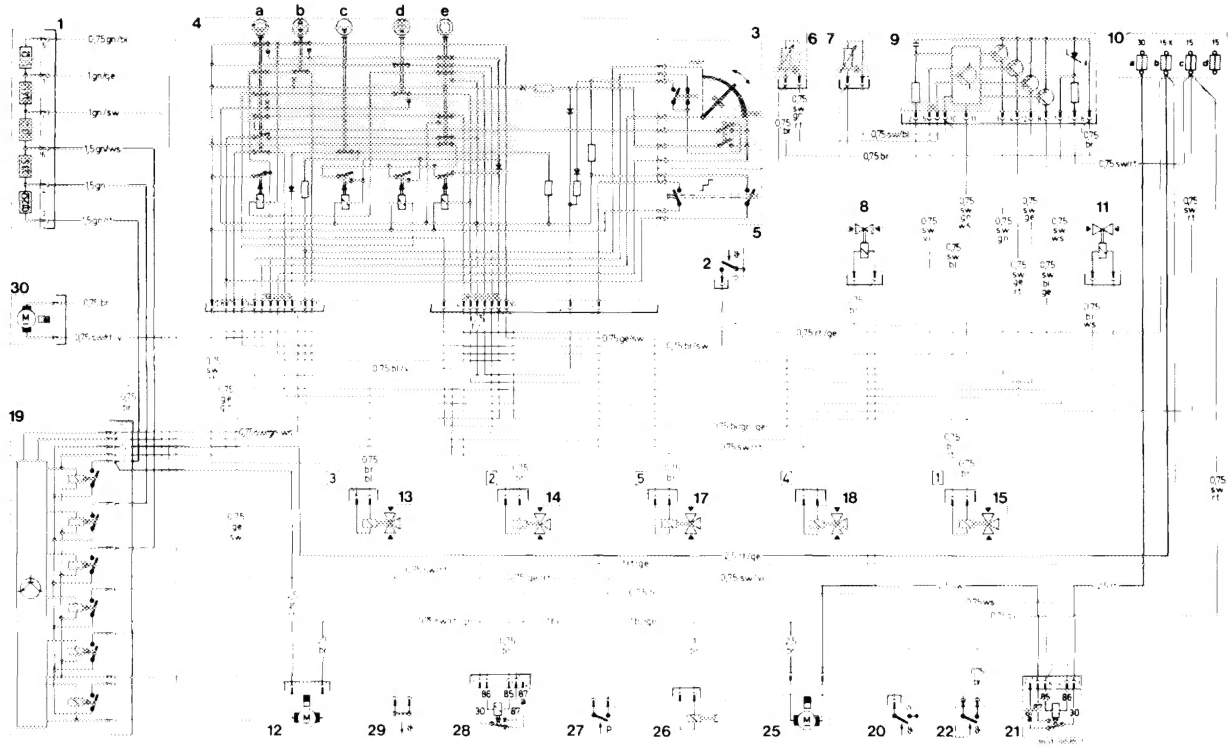
2 Temperature switch (cold engine lock) engine 123

- Main air flap open.
- Fresh air-recirculating air flap in position "recirculating air".
- Blower starts after approx. 10 seconds (5 V to 10 V or 2nd stage to 5th stage).
- Plug-in coupling of cold engine lock.

For all tests, also refer to electric wiring diagrams.

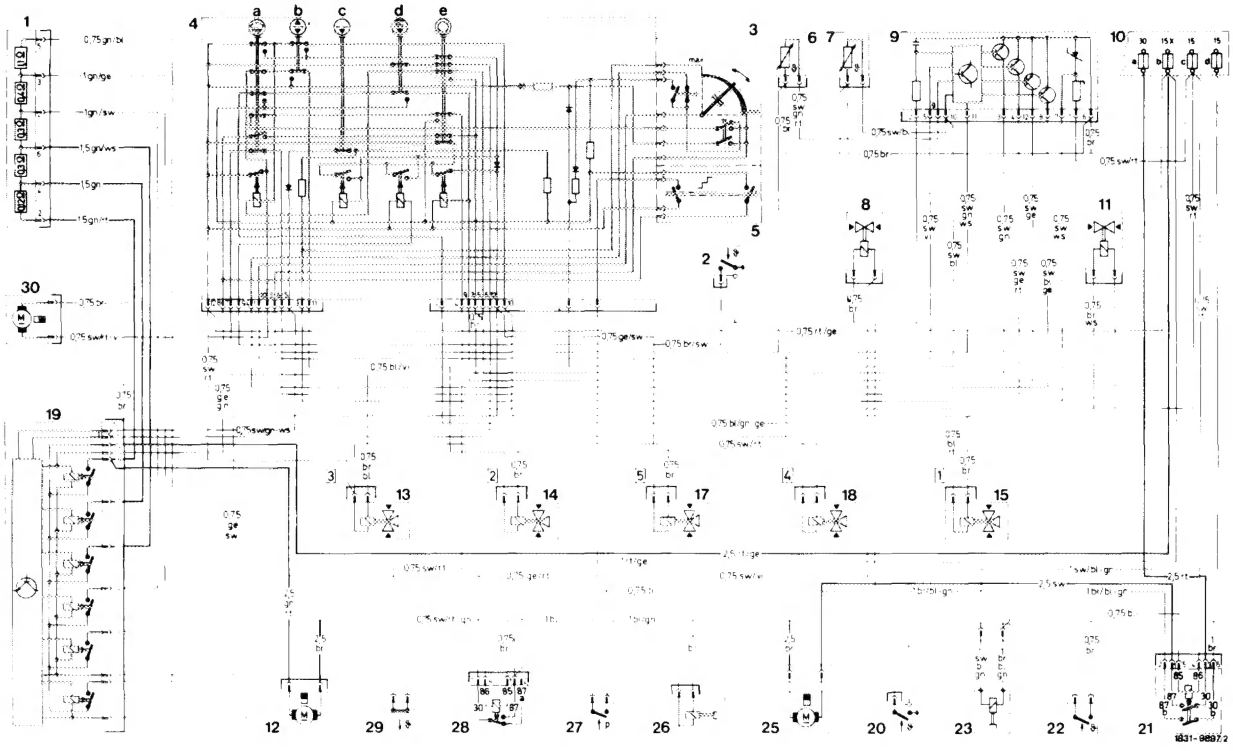


2 Temperature switch (cold engine lock) diesel engines



Electric wiring diagram automatic climate control
Model 123.0, 123.1

1 Pre-resistance group
2 Temperature switch (cold engine lock)
3 Temperature dial
4 Pushbutton switching unit
  a Defrosting
  b Top and bottom (also legroom)
  c Normal adjustment (air conditioning on)
  d EC (air conditioning off)
  e Off
5 Blower switch
6 Temperature sensor for heat exchanger
7 In-car temperature sensor
8 Switchover valve for rpm stabilization (except 123.1)
9 Electronic switching unit for temperature control
10 Fusebox
  a Fuse C: 16 amps.
  b Fuse 8: 16 amps.
  c Fuse 14: 8 amps.
11 Monovalve
12 Blower motor
13 Switchover valve for center nozzle flap
14 Switchover valve for legroom flaps
15 Switchover valve for defroster nozzle flaps
17 Switchover valve for main air flap
18 Switchover valve for fresh air-recirculating air flap
19 Electronic switching unit for blower control
20 Temperature switch 100 °C for additional fan
21 Relay additional fan (code number 6)
22 Temperature switch 52 °C for additional fan
25 Additional fan
26 Electromagnetic coupling-refrigerant compressor
27 Low pressure switch refrigerant compressor
28 Relay refrigerant compressor (code number 12)
29 ETR-switch
30 Recirculating pump



Electric wiring diagram automatic climate control
Model 123.2

1 Pre-resistance group
2 Temperature switch (cold engine lock)
3 Temperature dial
4 Pushbutton switching unit
  a Defrosting
  b Top and bottom (also legroom)
  c Normal adjustment (air conditioning on)
  d EC (air conditioning off)
  e Off
5 Blower switch
6 Temperature sensor for heat exchanger
7 In-car temperature sensor
8 Switchover valve for rpm stabilization
9 Electronic switching unit for temperature control
10 Fusebox
  a Fuse C: 16 amps.
  b Fuse 8: 16 amps.
  c Fuse 14: 8 amps.
  d Fuse 10: 16 amps.
11 Monovalve
12 Blower motor
13 Switchover valve for center nozzle flap
14 Switchover valve for legroom flaps
15 Switchover valve for defroster nozzle flaps
17 Switchover valve for main air flap
18 Switchover valve for fresh air-recirculating air flap
19 Electronic switching unit for blower control
20 Temperature switch 100 °C for additional fan
21 Relay additional fan and magnetic coupling (code number 6)
22 Temperature switch 52 °C for additional fan
23 Magnetic coupling for fan
25 Additional fan
26 Electromagnetic coupling-refrigerant compressor
27 Low pressure switch refrigerant compressor
28 Relay refrigerant compressor (code number 12)
29 ETR-switch
30 Recirculating pump